

# **Metadata and its relevance to Software Reuse**

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# What is Metadata?

- Characterizing code
- Descriptive information about the software
- Labeling, cataloging and search information

# Why Use Metadata?

- Enables community to properly catalog and share software
- Essential for explaining software assets
- Easier to find/search
- Easier to reuse
- Easier to modify

# Metadata in Reuse:

- Effective retrieval
- Systematic reuse
- Automatic routing based on status
- Tracking of reuse
- Reporting
- Contributes to a standard vocabulary for software attributes

# Metadata Reuse Process

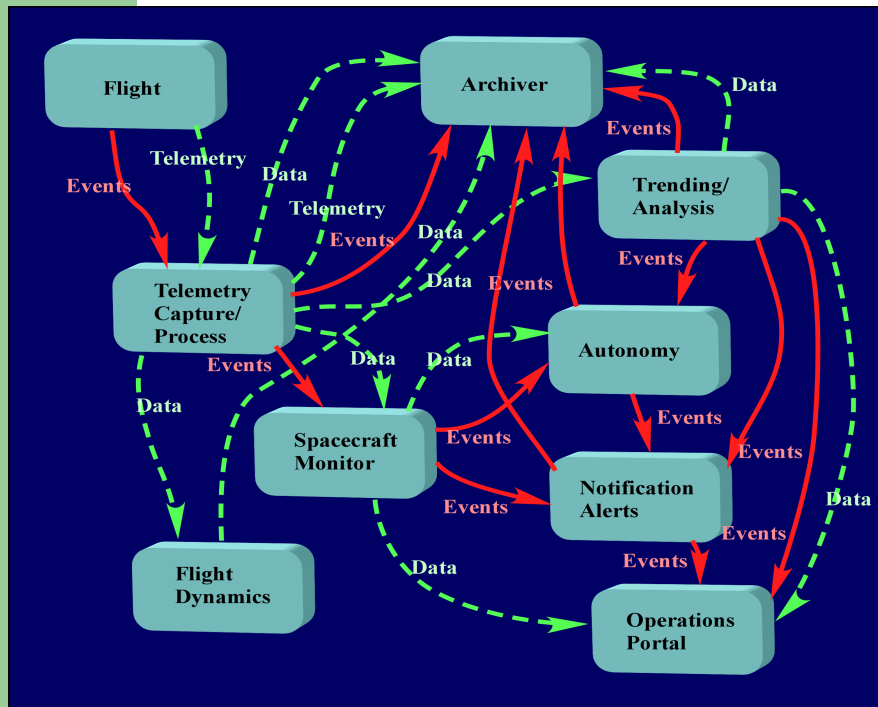
- Organizing software in a logical structure
- Categorizing software
- Create metadata catalog
- Populate with available software assets

# Example

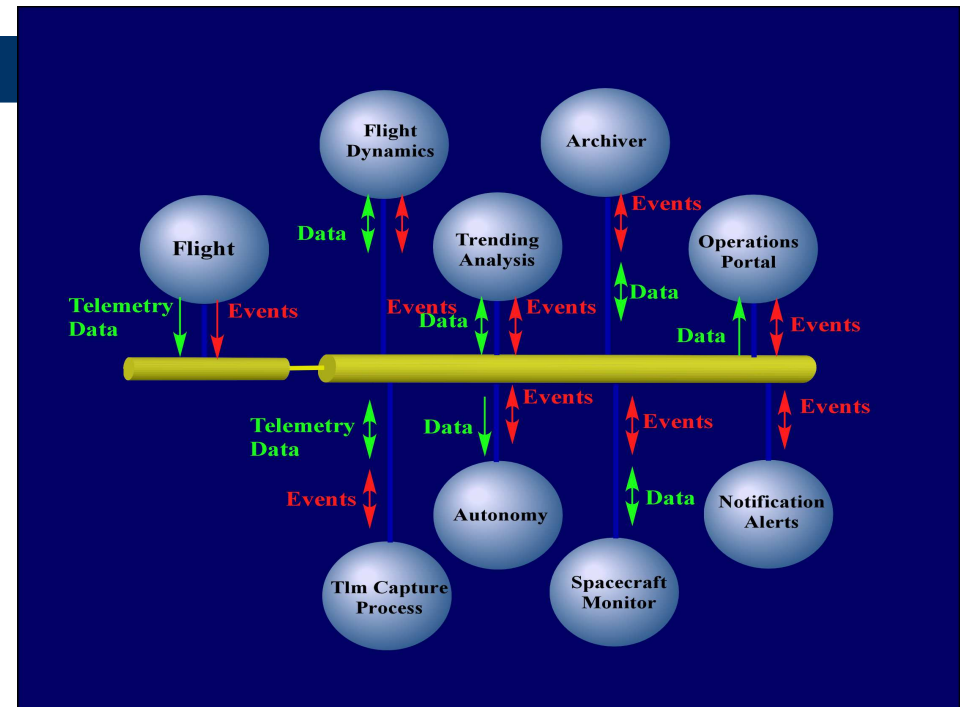
- Insert metadata into software in the form of comments
  - /\* Input ASCII/TEXT Pass Plan \*/
  - /\* Output XML \*/
- Use standard software communication message
  - Standard must be defined prior to software creation
  - GMSEC <http://gmsec.gsfc.nasa.gov>

# GMSEC Publish Subscribe Communication

Traditional Design  
Socket Connections



GMSEC Design  
Middleware Connections



Middleware simplifies interfaces by reducing knowledge of components about other components

# GMSEC Components

